OIB - C-130H Hercules #439 04/18/15 Science Report

Aircraft:
C-130H Hercules #439 (See full schedule)
Date:
Saturday, April 18, 2015
Mission:
OIB
Mission Location:
Kangerlussuaq, Greenland
Mission Summary:

Mission: Southwest Coastal A (priority: baseline)

This mission is one of two (with Southwest Coastal B) designed to mirror the southeastern coast-parallel coverage in the southwest, along 2011 LVIS flight lines. This particular flight captures thelowest-altitude portion of this part of the ice sheet. We also overfly a total of six PROMICE sites.

The powerful low-pressure system dominating south central Greenland was still in place today, but it had weakened slightly and the skies over the southwestern coast cleared enough to permit us to fly this mission. We enjoyed clear skies and calm winds for the entire flight, except for the easternmost few miles of the two inland lines, which were obscured by clouds.

We were delayed by approximately 20 minutes before takeoff by concern about the ATM T3 scanner, which had malfunctioned several days prior. The concern today was brought about by higher-than-expected current draw of the T3 scan motor. The operators immediately stopped the motor so that the problem could be investigated. A working theory quicky developed that the problem was related to a precision bearing on the motor-mirror shaft being too cold, and the team applied heat to this bearing using a common tool in the OIB arsenal (and beauty parlors everywhere) - a hair dryer. This solved the problem of the high current draw and probably confirmed the theory, so we proceeded with the mission. ATM and DMS instruments performed normally after takeoff with no problems reported. The ATM team intends to make the application of heat to this bearing a standard part of the morning startup procedure, when the aircraft has cold-soaked the previous night. The bearing in question is a new high-precision device, and the team had limited previous experience with cold-soaking this particular component.

The Snow and Ku-band radars operated normally all day. The MCoRDS radars suffered a 10-15 minute loss of data on the final northbound line due to a data server issue which was later resolved.

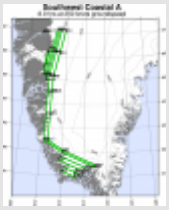
We flew a ramp pass, for instrument calibration purposes, at 1000' AGL.

Data volumes:
ATM: 26 Gb
CAMBOT: 91 Gb
DMS: 130 Gb
Ku-Band Radar: 291 Gb
MCoRDS: 2.6 Tb
Narrow Swath ATM: 32 Gb
NSERC Onboard Data: TBD
Snow Radar: 291 Gb

total data collection time: 7.5 hrs

Images:

Map of Southwest Coastal A



Read more

South Greenland Coast

Read more

Submitted by:
John Sonntag on 04/18/15
Related Flight Report:

C-130H Hercules #439 04/18/15

Flight Number:
Southwest Coast A
Payload Configuration:
OIB
Nav Data Collected:
No
Total Flight Time:
8.1 hours
Submitted by:
Luci Crittenden on 04/18/15
Flight Segments:

From:	BGSF	**To:**	BGSF
Start:	04/18/15 10:36 Z	**Finish:**	04/18/15 18:42 Z
Flight Time:	8.1 hours		
Log Number:	151002	**PI:**	Michael Studinger
Funding Source:	Bruce Tagg - NASA - SMD - ESD Airborne Science Program		
Purpose of Flight:	Science		
Comments:	Another successful OIB mission completed today. Tomorrow is a hard down day for crew rest. Next flight planned for Monday, April 20th		

Flight Hour Summary:

	151002
Flight Hours Approved in SOFRS	334.4
Total Used	297.6
Total Remaining	36.8

151002 Flight Reports

Date	Flt #	Purpose of Flight	Duration	Running Total	Hours Remaining
03/12/15	ATF	Check	1.5	1.5	332.9
03/13/15	PTF - GPS	Check	2	3.5	330.9
03/13/15	PTF - Radar #1	Check	0.8	4.3	330.1
03/13/15 - 03/14/15	PTF - Radar #2	Check	4.5	8.8	325.6
03/16/15	PTF - Radar #3	Check	2.4	11.2	323.2
03/17/15	Transit	Transit	7.8	19	315.4
03/19/15	Nansen Gap	Science	7.4	26.4	308
03/24/15	Sea Ice - Zigzag East	Science	8.2	34.6	299.8
03/25/15	Sea Ice North Pole Transect ? Thule	Science	8.2	42.8	291.6
03/26/15	Sea Ice - Laxon Line	Science	9.2	52	282.4

03/27/15 - 03/28/15	Sea Ice - East Beaufort Sea	Science	8.2	60.2	274.2
03/29/15 - 03/30/15	Sea Ice - North Beaufort Loop	Science	8.9	69.1	265.3
03/30/15 - 03/31/15	Sea Ice - SIZRS Zigzag	Science	8.1	77.2	257.2
04/01/15	Sea Ice - South Basin Transect	Science	8.8	86	248.4
04/03/15	Sea Ice - South Canada Basin	Science	7.4	93.4	241
04/06/15	OIB Transit from BGTL-BGSF	Transit	3.3	96.7	237.7
04/08/15	Helheim-Kangerdlussuag	Science	8	104.7	229.7
04/09/15	K-EGIG Summit	Science	8.3	113	221.4
04/10/15	Southeast Glaciers 01	Science	8	121	213.4
04/11/15	East Glaciers 01	Science	8	129	205.4
04/13/15	Southeast Coastal	Science	7.7	136.7	197.7
04/14/15	Helheim-Kangerdlussuaq Gap B	Science	7.9	144.6	189.8
04/17/15	Umanaq B	Science	7.5	152.1	182.3
04/18/15	Southwest Coast A	Science	8.1	160.2	174.2
04/20/15	Penny 01	Science	6.3	166.5	167.9
04/21/15	Thomas-Jakobshaven 01	Science	8.7	175.2	159.2
04/22/15	Southeast Flank 01	Science	7.6	182.8	151.6
04/23/15	Jakobshavn-Eqip-Store	Science	9.2	192	142.4
04/24/15	Geikie 02	Science	8.3	200.3	134.1
04/25/15	Jakobshaven 02/ Mop Up	Science	6.9	207.2	127.2
04/27/15	Southwest Coastal B	Science	8	215.2	119.2
04/28/15	Southeast Glaciers 02	Science	7	222.2	112.2
04/29/15	TRANSIT BGSF-BGTL	Transit	2.5	224.7	109.7
04/30/15	ATM Laser Repair Checkout	Science	2.3	227	107.4
05/01/15	NW Coastal A	Science	7.2	234.2	100.2
05/05/15	IceSat-2 North / CryoSat-2 SARIn	Science	8.2	242.4	92
05/06/15	North Glaciers 01	Science	8.2	250.6	83.8
05/07/15	Devon-Barnes 01	Science	7.8	258.4	76
05/08/15	Zigzag West	Science	7.2	265.6	68.8
05/11/15	Northwest Glaciers 01	Science	7.8	273.4	61
05/12/15	North-Central Gap 02	Science	8.1	281.5	52.9
05/15/15	North-Central Gap 01	Science	7.3	288.8	45.6
05/21/15	Transit - Thule to Bangor, ME	Transit	6.5	295.3	39.1
05/22/15	Transit - Bangor, ME to WFF	Transit	2.3	297.6	36.8

Flight Reports began being entered into this system as of 2012 flights. If there were flights flown under an earlier log number the flight reports are not available online.

NASA Official: Bruce A. Tagg

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